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AUTHOR Hammond, Robert M.
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ABSTRACT

Standard manuals of Spanish pronunciation recognize that both [+continuant] and [-continuant] surface variants occur for the voiced obstruents/bdg/. Within generative phonology, it has been assumed that the systematic phonemic representation for these voiced obstruents should be [-continuant] /bdg/, with a rule of spirantization converting these segments to [+continuant] surface forms in specified environments, rather than the converse, i.e., systematic [+continuant] and a phonological rule of despirantization. The [+continuant] versus [-continuant] status of the systematic phonemic representations of the voiced obstruents of Miami-Cuban Spanish (MCS) are discussed in terms of the following arguments: (1) symmetry of the systematic phonemic inventory of obstruents, (2) markedness as it relates to the feature [continuant] in obstruents, (3) language change-rule loss and rule spread, (4) directionality of phonological change involving voiced obstruents currently occurring in MCS, (5) frequency of occurrence of the [+or - continuant] surface variants of voiced obstruents, (6) rule economy and relative abstractness of underlying forms, and (7) naturalness of phonological rules of spirantization and despirantization. It is concluded that, although evidence may not presently be strong enough to conclusively motivate phonemic restructuring of voiced obstruents in MCS, if current phonological changes continue in this dialect in the direction of [+continuant] surface forms, such a restructuring of underlying forms will become obligatory. (Author/CLK)

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PHONEMIC RESTRUCTURING OF VOICED OBSTRUENTS IN MIAMI-CUBAN SPANISH

Robert M. Hammond

University of Florida

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I. Introduction:*

In all standard manuals of Spanish pronunciation, it has long been recognized that both [+continuant] and [-continuant] surface variants occur for the voiced obstruents /bdg/. The [-continuant] surface variants are described as occurring after pauses, after nasals, and after /l/ in the case of /d/; the [+continuant] surface variants are said to occur in all other phonological environments. Examples of the distribution of the surface variants of systematic /bdg/ are shown below in (1.):

1. systematic voiced obstruents of Spanish: /bdg/
   [-continuant] surface variants: [bdg]
   [+continuant] surface variants: [βðɣ]

lexical item	standard Spanish
a. bobo 'fool'	[boβo]
b. el bobo 'the fool'	[elβoβo]
c. un bobo 'a fool'	[umboβo]

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d.	dedo 'finger'	[dðo]
e.	el dedo 'the finger'	[eldðo]
f.	un dedo 'a finger'	[unðo]
g.	gago 'stutterer'	[gɑ̃go]
h.	el gago 'the stutterer'	[elɣɑ̃go]
i.	un gago 'a stutterer'	[uŋgɑ̃go]
j.	abogado 'lawyer'	[aβoɣɑ̃ðo]

Within generative phonology, it has heretofore been assumed, since Harris' Spanish Phonology, that the phonological grammar of Spanish contains a rule of spirantization, shown below in (2.), which converts [-continuant] /bdg/ to the [+continuant] surface variants [βðɣ] in all environments in which a [+continuant] segment immediately precedes, i.e. in all phonological environments except after a pause, after a nasal, and after /l/ in the case of /d/.

$$2.\quad \begin{bmatrix} +\text{obs} \\ +\text{voice} \end{bmatrix} \rightarrow [+\text{cont}] \,/\, \left\{ \begin{bmatrix} +\text{cont} \end{bmatrix} \right\} \left(\left\langle [-\alpha\text{cor}] \right\rangle \right) (\#)\ [\overline{\langle \alpha \text{cor} \rangle}]$$

In formulating such a rule of spirantization, Harris states: "Let us assume, perhaps incorrectly, that the directionality of the alternations [b-β], [d-ð], [g-ɣ] is from stop to continuant" (Harris, 1969: p. 38). Harris goes on to formulate such a rule of spirantization without any further motivation for the above assumption.

Explicit in such an assumption, however, is that the systematic phonemic representations of the voiced obstruents of Spanish are [-continuant] /bdg/, rather than [+continuant] /βðɣ/.

It has been observed, however, that in several Spanish dialects, including Miami-Cuban Spanish (henceforth MCS), that the [+continuant] surface variants of systematic /bdg/ occur in all phonological environments in rapid speech, and are not excluded after pauses, after nasals, and after /l/ in the case of /d/. The lexical items from standard Spanish, previously shown above in (1.), are shown below in (3.) as they occur phonetically in MCS rapid speech:

3. Miami-Cuban Spanish rapid speech

a.	bobo	[βoβo] ~ [boβo]
b.	el bobo	[elβoβo]
c.	un bobo	[u$\overset{ŋ}{m}$βoβo] ~ [u$\overset{ŋ}{m}$boβo]
d.	dedo	[ðeðo] ~ [deðo]
e.	el dedo	[el$\underset{n}{}$ðeðo] ~ [el$\underset{n}{}$deðo]
f.	un dedo	[unðeðo] ~ [undeðo]
g.	gago	[ɣaɣo] ~ [gaɣo]
h.	el gago	[elɣaɣo]
i.	un gago	[unɣaɣo] ~ [ungaɣo]
j.	abogado	[aβoɣaðo]

While the [+continuant] surface variants of systematic /bdg/ may occur in all phonological environments in MCS rapid speech, i.e. the occurrences of [+continuant] [βðɣ] have spread to a more general environment, the converse is not true. That is, the [-continuant] surface variants are not observed in MCS rapid speech in any environment in which a preceding segment is [+continuant].

It is apparent, therefore, that we are observing a phonological change in MCS involving voiced obstruents, and that this change is clearly in the direction of continuancy, i.e. the phonological environments in which the [+continuant] surface variants of systematic /bdg/ occur are increasing, or becoming more generalized.

With these data in mind, the question arises as to the correctness of positing the systematic phonemes for the voiced obstruents in the synchronic grammar of MCS as [-continuant], rather than [+continuant] /~~bdg~~/. Closely related to this question is what independent motivation there is for claiming that the phonological component of MCS should contain a rule of spirantization (shown above in 2.), rather than one of despirantization, optionally converting [+continuant] systematic /~~bdg~~/ to [-continuant] [bdg] in specified environments.

II. Arguments in favor of [-continuant] systematic phonemes for voiced obstruents in the synchronic grammar of MCS:

1. Symmetry of the underlying system of obstruents in MCS: Shown below in (4.) is the system of underlying obstruents for MCS containing [-continuant] voiced obstruents:

4. Systematic obstruent phonemes: (with [-continuant] voiced obstruents)

[-voice]	[+voice]
/p/	/b/
/t/	/d/
/k/	/g/
/f/	
/s/	
/h/	
/č/	

This same system containing voiced obstruents which are [+continuant] is shown below in (5.):

5. Systematic obstruent phonemes: (with [+continuant] voiced obstruents)

[-continuant]		[+continuant]	
[-voice]	[+voice]	[-voice]	[+voice]
/p/			
/t/			
/k/			
/c/			
		/f/	
		/s/	
		/h/	

The system of underlying obstruents shown above in (4.) is, in some ways, more symmetrical than the system shown in (5.). Another argument in favor of the underlying system shown in (4.) is that the six phonemes in question differ by only one feature, [voice], while in the system shown in (5.), they differ by two features, [voice] and [continuancy]. Therefore, the symmetry of the system of underlying phonemes for obstruents serves to motivate the [-continuant] status of /bdg/ for MCS. Although such an argument by itself is not extremely compelling, it does provide some motivation for the [-continuant] status of systematic /bdg/ in this dialect.

2. Markedness of underlying voiced obstruents in MCS: According to the theory of markedness as outlined by Chomsky and Halle (1968), UIC XXIV, the unmarked specification for

continuancy in consonants is [-continuant], unless this segment is followed by any other [+consonantal] segment, and is preceded by a morpheme boundary. In this environment, its unmarked value is [+continuant]. UIC XXIV is shown below in (6.):

6. UIC XXIV:

$$[\text{u cont}] \rightarrow \begin{cases} [+\text{cont}] \,/\, + ____ [+\text{cons}] & \text{a.} \\ [-\text{cont}] & \text{b.} \end{cases}$$

If UIC XXIV is correct, and there are many reasons to suspect that it is not, at least for Spanish and English, then a system of underlying voiced obstruents in MCS being [-continuant] would be less marked than one containing [+continuant] voiced obstruents. Therefore, the SPE theory of markedness would provide further motivation for voiced obstruents being [-continuant] in underlying forms. Just how compelling this argument is, however, depends on the correctness of UIC XXIV.

For English, part (a.) of UIC XXIV deals specifically with such lexical items as 'spin'; 'stop'; 'skin'; 'floor'; 'from'; etc., suggesting the fact that clusters such as /sp/, /st/, /sk/, /fl/, and /fr/ are less highly marked than clusters in which /ptklr/ are preceded by a [-continuant] consonant. Some such clusters would, of course, violate surface structure constraints on initial syllables in English. Unfortunately, part (a.) of UIC XXIV makes several improper claims about English phonology. In English, the morpheme-initial clusters /pl/, /pr/, /bl/, /br/, /tr/, /dr/, /gl/, and /gr/ are very frequent. On the other hand,

the sequence /sr/ does not occur word-initially in standard English. Because of the high frequency of occurrence of clusters such as those just mentioned above, it would appear, at least for English, that part (a.) of UIC XXIV is simply incorrectly stated.

When considering the possible morpheme-initial clusters of Spanish, part (a.) of UIC XXIV must again be regarded with skepticism. While it accurately reflects the fact that [+continuant] obstruents are less highly marked than [-continuant] obstruents in the environment of /+____[+consonantal], it does so for the wrong reasons.

The sequences /pl/, /pr/, /tr/, /kl/, /kr/, /bl/, /br/, /dr/, /gl/, /gr/, /fl/, and /fr/ frequently occur morpheme-initially in Spanish. However, whether the segments /ptkbdgf/ appear as [±continuant] has nothing to do with their being preceded by a morpheme boundary and followed by a [+consonantal] segment, as stated in the part (a.) environment of UIC XXIV. /ptk/ are always [-continuant] in Spanish; /f/ is always [+continuant]; /bdg/ appear phonetically as [±continuant] depending on their phonological environment, but neither is sensitive to the environment shown in part (a.) of UIC XXIV, but rather to a preceding [+continuant] segment. Examples of the above word-initial sequences are shown below in (7.):

7.	lexical item	underlying form	standard Spanish
a.	plaga	/+plaga/	[plága]
b.	la plaga	/la+plaga/	[laplága]
c.	con plaga	/kon+plaga/	[komplága]

d.	blanco	/+blanko/	[blάŋko]
e.	el blanco	/el+blanko/	[elβlάŋko]
f.	un blanco	/un+blanko/	[umblάŋko]
g.	flama	/+flama/	[flάma]
h.	la flama	/la+flama/	[laflάma]
i.	con flama	/kon+flama/	[komflάma]

While part (a.) of UIC XXIV captures the significant fact of Spanish phonology that sequences such as those shown below in (8.) do not occur, it fails in many other respects.

8. $\begin{Bmatrix} t, d \\ k, g \\ f, h \end{Bmatrix} \begin{Bmatrix} [+\text{obstruent}] \\ [+\text{nasal}] \end{Bmatrix}$

Environment (a.) of UIC XXIV fails to capture an important aspect of Spanish phonology by claiming that sequences such as /pl/, /pr/, /tr/, /kl/, /kr/, are unnatural in Spanish when they follow a morpheme boundary, and that /bl/, /br/, /dr/, /gl/, and /gr/, when they occur as [+continuant] are more natural, and do so because they occur following a morpheme boundary and followed by a [+consonantal] segment. As was the case with English, it appears that the environments shown in UIC XXIV are once again incorrectly stated.

As was the case with the symmetry argument, an argument in favor of the systematic representations of the voiced obstruents of MCS as being [-continuant], based on the theory of markedness,

is somewhat less than compelling, especially since it is apparent that UIC XXIV is incorrectly stated, at least for English and Spanish.

Any other arguments for claiming that the systematic phonemic representations for the voiced obstruents of MCS should be [-continuant] are not immediately obvious.

III. Arguments in favor of [+continuant] systematic phonemes for voiced obstruents in the synchronic grammar of MCS:

1. Comparing the surface forms of MCS, shown above in (3.) with those of standard Spanish, shown above in (1.), it is obvious that the phonological change in process in MCS is clearly in the direction of continuancy. The directionality of this change suggests a restructuring of the synchronic underlying forms for these voiced obstruents, at least in MCS.

2. In terms of language change, it seems reasonable to assume that rule loss in specific environments is less marked than rule spread to new environments. Since the phonological change involving voiced obstruents in MCS rapid speech currently taking place is clearly in the direction of continuancy, a phonological description of this phenomenon describing it as rule loss, i.e. the loss of the rule of spirantization, would be less marked. therefore more highly valued, than a description requiring the spread of the rule of spirantization to environments after a pause, after a nasal, and after /l/ in the case of /d/.

If the systematic phonemic representations of the voiced obstruents of MCS are posited as [+continuant], then the phonological

change in process would be described as a rule loss; with the underlying forms being [-continuant] /bdg/ in MCS, however, the phonological change taking place must be described as rule spread - a more highly marked process.

In terms of naturalness of rule change, the less marked description of rule loss, rather than rule spread, would motivate the restructuring of the [-continuant] voiced obstruents /bdg/ of standard Spanish to [+continuant] /β̞ð̞ɣ̞/ in MCS.

3. The final and most compelling argument in favor of restructuring the systematic phonemic representations of the voiced obstruents of MCS as [+continuant] rather than maintaining them as [-continuant] is based on frequency of occurrence and rule economy.

In MCS rapid speech, the [+continuant] surface variants of the voiced obstruents occur much more frequently than the [-continuant] phonetic forms. In terms of rule economy, therefore, it seems more logical that the systematic phonemes should be /β̞ð̞ɣ̞/, requiring no phonological rule to account for the more frequent [+continuant] surface variants, rather than the converse, requiring the phonological grammar to contain a rule converting the majority of instances of [-continuant] underlying /bdg/ to the [+continuant] surface variants. Not only will rule economy result if the underlying forms for the voiced obstruents are posited as [+continuant], but a less abstract underlying representation will also be achieved.

IV. The naturalness argument - a rule of spirantization vs. a rule of despirantization:

In a system of underlying forms for voiced obstruents in MCS which contains [-continuant] /bdg/, the phonological component of the grammar must contain a rule of spirantization, as previously shown above in (2.).

If, on the other hand, the underlying system of voiced obstruents contained [+continuant] /β ð ɣ/, a rule of despirantization would be required, optionally converting [+continuant] /β ð ɣ/ to [-continuant] [bdg] when they are not preceded by a [+continuant] segment. The required rule of despirantization is shown below in (9.):

$$9.\quad \begin{bmatrix} +\text{obs} \\ +\text{voice} \end{bmatrix} \rightarrow [-\text{cont}] \,/\, \left\{ \begin{bmatrix} -\text{cont} \\ \langle [-\text{acor}] \rangle \end{bmatrix} \right\} (\#)\ [\ \overline{\langle \text{cor} \rangle}\ ]$$

In comparing the rules of spirantization and despirantization, it is clear that the rule of spirantization is more natural, hence a more highly valued rule.

The rule of spirantization is a highly natural rule of assimilation, with only two environments; the rule of despirantization, however, although still a rule of assimilation, must contain three environments. There seems to be no other way of describing the environments of despirantization in only two statements, unless one wishes to argue that a [-segment] is automatically minus all distinctive phonological features. The inescapable conclusion, therefore, must be that a rule of spirantization is more natural, and therefore, more highly valued than a rule of despirantization.

V. Summary and conclusions:

Two less than compelling arguments have been offered in favor of maintaining the [-continuant] status of the voiced obstruents of standard Spanish in MCS, based on the symmetry of the underlying system of obstruents, and on the notion of markedness as outlined in Chomsky and Halle (1968).

Three arguments have been offered in favor of the restructuring of the [-continuant] voiced obstruents of standard Spanish to [+continuant] in MCS, based on: 1.) the directionality of the phonological change taking place currently in MCS; 2.) the notion that rule loss is less highly marked than rule spread; and 3.) frequency of occurrence, rule economy, and relative abstractness of underlying forms.

It has also been shown that a phonological rule of spirantization is more natural than one of despirantization.

While the set of arguments for or against the maintaining of the [-continuant] status of the voiced obstruents of standard Spanish in the synchronic grammar of MCS does not conclusively motivate either approach, it seems apparent that the arguments in favor of phonemic restructuring do not, at the present time, seem to be strong enough to conclusively motivate such a restructuring of underlying voiced obstruents in MCS.

In light of the fact that there appears to be no compelling evidence in favor of the maintaining of the [-continuant] status of the systematic phonemic representation of the voiced obstruents of MCS, or for a phonemic restructuring of these segments as [+continuant], one further argument must be considered. Such a

phonemic restructuring would cause the phonological grammar of MCS to have a different inventory of underlying segments than other dialects of Spanish. To motivate such a complication of the grammar of Spanish would require stronger evidence than has been presented here.

It should be pointed out, however, that such a complication is not as serious as it might first appear, since the inventory of underlying segments of MCS, and of other Spanish dialects, is already different from that of the "standard language". The underlying inventory of segments in standard Spanish, for example, contains the dorso-velar spirant /x/. MCS, however, along with several other Spanish dialects, includes no such segment in its inventory of underlying forms, but rather, the voiceless pharyngeal spirant /h/.

Although it is beyond the scope of this paper, it can easily be shown that such a difference of underlying forms is necessary. There is simply no synchronic justification for claiming that the underlying segment inventory of MCS should contain a voiceless dorso-velar spirant.

VI. Epilogue:

From the data and arguments presented in this paper, it is apparent that a series of minor arguments converge, providing perhaps slightly more compelling motivation to maintain the current [-continuant] status of voiced obstruents in the synchronic grammar of MCS, with an accompanying rule of spirantization in specific

environments, rather than a phonemic restructuring of these segments as [+continuant], with a phonological rule of despirantization.

If, however, the trend toward continuancy continues in MCS, eventually eliminating all surface occurrences of [-continuant] [bdg] from the surface level, then a phonemic restructuring must obligatorily take place, making the underlying forms of the voiced obstruents [+continuant]. If such a phonemic restructuring were not to take place, the phonological grammar of MCS would be left with a rule of absolute neutralization, which would convert all occurrences of [-continuant] /bdg/ to [+continuant] surface forms in all environments. Only time will tell, however, if such an obligatory phonemic restructuring of the voiced obstruents of MCS will take place.

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